

African Swine Fever Virus in *Ornithodoros porcinus* in Madagascar

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First detection of African Swine Fever Virus in
Ornithodoros porcinus
 in Madagascar and new insights into tick distribution and taxonomy

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Parasites & Vectors
 2010, 3:115

Abstract

Background

African Swine Fever Virus has devastated more than the half of the domestic pig population in Madagascar since its introduction, probably in 1997-1998. One of the hypotheses to explain its persistence on the island is its establishment in local

Ornithodoros

soft ticks, whose presence has been reported in the past from the north-western coast to the Central Highlands. The aim of the present study was to verify such hypothesis by conducting tick examinations in three distinct zones of pig production in Madagascar where African Swine Fever outbreaks have been regularly reported over the past decade and then to improve our knowledge on the tick distribution and taxonomy.

Results

Ornithodoros

ticks were only found in one pig farm in the village of Mahitsy, north-west of Antananarivo in the Central Highlands, whereas the tick seemed to be absent from the two other study zones near Ambatondrazaka and Marovoay. Using

16S rDNA

PCR amplification and sequencing, it was confirmed that the collected ticks belonged to the

O. porcinus

species and is closely related to the

O. p. domesticus

sub-species Walton, 1962. ASFV was detected in 7.14% (13/182) of the field ticks through the amplification of part of the viral

VP72

gene, and their ability to maintain long-term infections was confirmed since all the ticks came from a pig building where no pigs or any other potential vertebrate hosts had been introduced for at least four years.

Conclusions

Considering these results,

O. porcinus

is a reservoir for ASFV and most likely acts as vector for ASFV in Madagascar, but its apparent restricted distribution may limit its role in the epidemiology of the disease in domestic pigs.



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